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REVIEW OF WHOLESALE
ELECTRIC MARKET DESIGN

§ PUBLIC UTILITY COMMISSION
§ OF TEXAS

COMMENTS OF EXELON GENERATION COMPANY, LLC

Exelon Generation Company, LLC (“Exelon”)¹ respectfully files these Comments with the Public Utility Commission of Texas (“Commission” or “PUCT”), addressing questions posed by the Commission in its continued work session on Market Design. These comments are intended to compliment, not replace, the E3 proposal that Exelon and NRG sponsored.

EXECUTIVE SUMMARY

Exelon appreciates the opportunity to comment on the questions posed by Commission Staff on 10/26/21 and has focused its responses on those questions relating to the LSE Obligation E3 proposal that was supported by Exelon and NRG. The LSE Obligation is the only concept under consideration that, operating in conjunction with the ORDC, provides a holistic solution to achieve the desired level of reliability by maintaining current resources and incentivizing new resources of varying types to meet ERCOT’s future needs.

Proper implementation of the LSE Obligation is achievable, and relies on equity, transparency, costs that are known and reasonable, and performance. Given ERCOT’s stand-alone operations, it is important that all customers that benefit from the ERCOT markets support reliability of the grid. Implementing a non-bypassable LSE Obligation provides that equity.

LSEs currently procure energy through bi-lateral transactions to meet their load obligation, and the LSE Obligation would function much the same way, using the same skills that an LSE already possesses or for which they contract. Market power concerns can be mitigated and protection for small retailers can be established with the following four concepts:

1. **Bulletin Board:** All bilateral transactions in support of LSE obligation should be reported to ERCOT and IMM, and the IMM should have the ability to evaluate transactions for exercise of market power and request additional information as

¹ Exelon Generation Company, LLC, through subsidiaries, owns 3,620 MWs of gas-fired capacity and 87 MWs of wind power in Texas. Exelon Generation Company, LLC also provides wholesale supply to a number of Texas cooperatives and municipalities.

necessary. Posting the results to a bulletin board would provide transparency to all retailers.

2. **Demand Response (DR) participation:** DR should be allowed to participate as a supply-side resource, creating an additional set of supply resources with relatively low barriers to and high speed of entry that thus enhances the competitiveness, depth, and liquidity of the market.
3. **Residual Auction:** A residual auction for unsold supply should be run by ERCOT three to six months prior to the delivery period for the LSE obligation. Unsold capacity from existing generation resources would be required to participate in this auction while participation from load, demand response, and new build generation would be voluntary. Supply and demand would be matched by ERCOT and the marginal supply resource would set the clearing price that would be paid/charged to supply/load. This provision thus establishes a must-offer obligation for existing generation resources.
4. **Alternative Compliance Payment:** This payment option should be established whereby an LSE with a shortfall relative to their obligation would be charged for the shortfall at a substantial but non-punitive rate such as the annualized gross cost of new entry of a CCGT. This alternative compliance payment rate would form an effective price cap for the bilateral market.

Given the single product, the LSE Obligation should prove easier to manage for LSEs than a new suite of ancillary products and services, each of which would have limited impact on the bottom line of reliability.

Retention and attraction of needed resources and performance under stressed grid conditions is the ultimate goal. The LSE Obligation should allow a broad range of resources, with accreditation requirements that reflect the actual reliability benefit provided not only of the type of resource but for the specific resource. If a resource fails to perform during an event, it should be penalized, with repeated failures resulting in increasing penalty severity.

If reliability is not ensured, more load shed could occur, disincentivizing new economic activity in the state of Texas. The development of this product could take one year to two years. This time frame is appropriate as it will send the correct signal to developers while the product is being developed and will be available in time to provide the “missing money” in future years when

the energy forward market is lower than today, which not only disincentivizes new generation, but puts certain existing generation resources at risk of retirement. Exelon provides ideas for expediting implementation of the product in its answers to question 14.

Failure to move forward with a holistic approach and instead either relying on a patchwork of products or, worse yet, adopting a wait-and-see approach, will degrade reliability and lead to volatility in both the retail and wholesale electric markets that is inherent in the current construct, which relies on a boom-bust cycle of investment in generation resources.

Load Serving Entity (LSE) Obligation

6. How can an LSE Obligation be designed to protect against the abuse of market power in the wholesale and retail markets?

- a. Will an LSE Obligation negatively impact customer choice for consumers in the competitive retail electric market in ERCOT? Can protective measures be put in place to avoid a negative impact on customer choice? If so, please specify what measures.*

RESPONSE: An LSE obligation should not negatively impact customer choice for consumers in the competitive retail market. All LSEs will have the obligation, and there will therefore be a level playing field among competitive retail suppliers. An LSE Obligation is simply creating a new product that LSEs will need to manage in serving their load, similar to how LSEs currently manage their energy needs. LSEs will have the ability to transact with others to manage the LSE Obligation. To further support the competitive retail market, ERCOT should establish a residual auction that will provide LSEs with the transparency and the liquidity to transact to meet that obligation.

- b. How can market power be effectively monitored in a market where owners of power generation also own REPs that serve a large portion of ERCOT's retail customers?*

RESPONSE to (b), (e), and (f):

Market power should be monitored and mitigated using several combined provisions that collectively ensure that the market for the capacity to supply the LSE obligation is liquid, deep, and competitive and easily accessible to all LSEs.

Market power concerns can be mitigated and protection for small retailers can be established with these four provisions:

1. All bilateral transactions in support of LSE obligation should be reported to ERCOT and IMM, and the IMM should have the ability to evaluate transactions for exercise of market power and request additional information as necessary.
2. Demand response should be allowed to participate as a supply-side resource, creating an additional set of supply resources with relatively low barriers to and high speed of entry that thus enhances the competitiveness, depth, and liquidity of the market.
3. A residual auction for unsold supply should be run by ERCOT three to six months prior to the delivery period for the LSE obligation. Unsold capacity from existing generation resources would be required to participate in this auction while participation from load,

demand response, and new build generation would be voluntary. Supply and demand would be matched by ERCOT and the marginal supply resource would set the clearing price that would be paid/charged to supply/load. This provision thus establishes a must-offer obligation for existing generation resources.

4. An alternative compliance payment option should be established whereby an LSE with a shortfall relative to their obligation would be charged for the shortfall at a substantial but non-punitive rate such as the annualized gross cost of new entry of a CCGT. This alternative compliance payment rate would form an effective price cap for the bilateral market.

- c. What is the impact on self-supplying large industrial consumers who will have to comply with the LSE Obligation and will it impact their decision to site in Texas?*

RESPONSE: In a pooled electric wholesale market and grid such as ERCOT, all customers benefit from grid reliability, and all customers connected to the ERCOT grid must have a responsibility to ensure reliability. As is the case with other LSEs, self-supplying large industrial customers can manage the LSE Obligation and its costs like any other function of their energy supply. Additionally, the LSE Obligation can be met, in whole or in part, with demand response or self-generation. Although there would be expenditures on LSEs, the LSE Obligation could actually help with enticing new industrials to move to Texas because, if done properly, it provides a more stable grid and can guard against debilitating weather events like the Winter Storm, mitigating the \$200 billion in state-wide economic losses and the devastating impact on personal lives.

- d. What is the impact of an LSE Obligation on load-serving entities that do not offer retail choice, such as municipally owned utilities or electric cooperatives?*

RESPONSE: As mentioned in (c), above, in an electric grid such as ERCOT, all customers benefit from grid reliability, and all customers connected to the ERCOT grid must have a responsibility to ensure reliability. Municipal utilities and electric cooperatives should thus be required to comply with the LSE Obligation just like any other LSE. The ERCOT defaults and bankruptcies clearly demonstrates that municipally owned utilities and electric cooperatives that participate in the ERCOT markets directly impact all other market participants and the strength of those markets.

- e. Can market power be monitored in the bilateral market if an LSE Obligation is implemented in ERCOT? Can protective measures be put in place to ensure that market power is effectively monitored in ERCOT with an LSE Obligation? If so, please specify what measures.*

RESPONSE: See above response to (b).

- f. Should the LSE Obligation include a "must offer" provision? If so, how should it be structured?*

RESPONSE: See above response to (b).

- 7. How should an LSE Obligation be accurately and fairly determined for each LSE? What is the appropriate segment of time for each obligation? (Months? Weeks? 24 hour operating day? 12 hour segments? Hourly?)*

RESPONSE: An LSE Obligation should be based on each LSE's coincident share of the projected peak load for the delivery period. Exelon suggests that the appropriate segment of time for each LSE Obligation delivery period should be a season (summer, winter, spring, fall). The peak load utilized to set the obligation should be based on the projected 90th percentile peak hourly load for the season in question (rather than the 50th percentile which typically forms the "expected" case in some planning analyses such as the CDR) to ensure that LSEs can collectively meet peak load even under more extreme-than-expected weather conditions.

- 8. Can the reliability needs of the system be effectively determined with an LSE Obligation? How should objective standards around the value of the reliability-providing assets be set on an on-going basis?*

- a. Are there methods of accreditation that can be implemented less administrative burden or need for oversight, while still allowing for all resources to be properly accredited?*
- b. How can winter weather standards be integrated into the accreditation system?*

RESPONSE: It is essential that the Commission determine the proper resource accreditation methodology, for an LSE Obligation to have the desired effect. Resources should be accredited in a manner that adjusts their accredited capacity downward for expected forced outages under high-stress weather conditions appropriate to the season in question, and intermittent resources should be accredited at a level that reflects their collective Effective Load Carrying Capability ("ELCC")

under extreme weather conditions. To the extent that resources make investments that increase their capability under high-stress weather conditions (such as winterization investments), the improved reliability stemming from such investments should be reflected in a higher accredited capability.

9. How can the LSE Obligation be designed to ensure demand response resources can participate fully and at all points in time?

RESPONSE: Demand response resources should be allowed to fully participate as supply resources. Participating in the market to allow LSEs to meet their LSE Obligation using demand response resources would look similar to ERS, and a resource should be able to provide both if it has the capability to do so. The Commission/ERCOT would accredit a MW of load that is qualified to provide demand response by verifying its capability and evaluating its historical performance, if applicable. If the resource is selected to supply the LSE Obligation and does not perform during scarcity conditions when called upon, it would pay a penalty, as would any resource supplying the LSE Obligation, demand response or otherwise. Repeated failures to perform when called upon would result in an escalating penalty-per-event, allowing full participation while incentivizing performance.

10. How will an LSE Obligation incent investment in existing and new dispatchable generation?

RESPONSE: This product, when properly designed, will act as a bellwether for overall reliability of Texas —adding more money to the market when needed for reliability and clearing at a lower price, reflective of the cost of retaining existing resources, when there are sufficient resources to meet the needs of Texas.

11. How will an LSE Obligation help ERCOT ensure operational reliability in the real-time market (e.g., during cold weather events or periods of time with higher than expected electricity demand and/or lower than expected generation output of all types)?

RESPONSE: At the outset, it is important to distinguish between planning reliability, which is whether system resources are collectively capable of meeting the projected reliability needs of the system prior to a given period, including under a range of potential high-stress outcomes (weather, outages, etc.), and operational reliability, which is how these resources actually perform under the

operational conditions that occur over the period in question and whether that performance is sufficient to cover actual load requirements. Ensuring planning reliability requires that the system have planning reserves at a level to ensure that there is enough installed generation (and supply-side resources such as demand response) to get resources online when needed via the ORDC mechanism to manage operational reliability and to ensure that load can be served in real-time. If there is insufficient installed generation, the ORDC mechanism cannot in and of itself ensure reliable operations, and load shed will be required.

1. The LSE Obligation ensures sufficient installed capacity. It solves the problem identified by the Brattle Group of ensuring that there are sufficient planning reserves within ERCOT and identifying future needs in a way that encourages and incentivizes investment to meet projected system needs. The LSE Obligation, if structured properly based on projected stressed peak load and stressed resources, will procure sufficient resources to meet reliability needs under all conditions.
2. The ORDC solves an additional problem noted by the Brattle Group - operational performance. Once the system has enough planning reserves, then the ORDC mechanism provides the price signal that would ensure that enough of those planning reserves are available and deployed in real time to serve as operating reserves. After implementation of the LSE Obligation, there should be a reduced number of issues in real time because there will not only be more resources, but there will be a greater confidence in the expected performance capabilities of those resources.

12. What mechanism will ensure those receiving revenue streams for the reliability services perform adequately?

RESPONSE: In order to ensure that the resources that are being compensated and relied upon under the LSE Obligation mechanism are fulfilling their obligations, there should be a performance standard based on real-time operations and whether the resource performs when needed. For example, if real time reserves fall below the MCL, and the price of energy is the applicable system-wide offer cap, a performance assessment would be triggered for any resource providing capacity to supply the LSE Obligation. If the resource's available MW were less than the number of MW sold by the resource to serve the LSE Obligation, there would be a penalty on the underperformance quantity of some dollar amount. In the case of repeated instances of

underperformance, the dollar amount of the penalty-per-MW would increase, capped at that season's obligation price.

13. What is the estimated market and consumer cost impact if an LSE obligation is implemented in ERCOT? Describe the methodology used to reach the dollar amount.

RESPONSE: If designed well, the aggregate cost of obligation plus energy should be the same as the cost of new entry for generators if the system does not have sufficient generation capacity. If there is sufficient installed capacity, then the cost of this product should reflect the cost of retaining existing resources. This product helps to dampen the feast/famine effect seen in the energy-only market and works to cut off the most extreme tails of load shed.

The cost of this product should be weighed against the cost of doing nothing or implementing a partial solution that will not solve for the entire capacity needed. Not having full reliability is unacceptable; it could lead to more significant economic impact to the state and harm to its citizens.

14. How long will the LSE Obligation plan take to implement?

RESPONSE: The important timing considerations are both implementation, and adoption of the new mechanism. The time to implement could be as little as one year, depending on how the product is set up and the level of policy guidance provided by the Commission. This timing aligns well with the backwardation in the forward market curve for energy prices. The backwardation of the energy curve means that the farther out in time, the lower the implied energy price, and the more "missing money" is required for new development. Looking at current forward pricing, the implied energy price drops substantially within the next couple years, putting stress on generation resources independent of the potentially significant costs associated with weatherization.

Adopting the LSE Obligation and providing clear policy guidance from the Commission now would give developers the confidence needed to ensure that they have the possibility of recouping incremental investment costs more than a few years out. The product does not need to be operationalized to provide a forward market signal for investors. This signal will be sent while the product details are being worked out if the commission adopts a rule signaling implementation of this product.

The following steps can be taken to expedite the product implementation:

1. Resource accreditation: simplifying assumptions for the first auction could be used while the final accreditation calculation methodology is worked out. The initial, simplified assumptions could be based on the ERCOT SARA report's capacity contributions haircut for overall system forced and maintenance outage rates.
2. Bulletin board: while ERCOT is coding this, ERCOT could post bilateral trades as .csv files on its website to provide the same level of transparency.
3. Residual auction: while ERCOT is coding this, ERCOT could manually clear the auction in excel as, unlike an auction such as the Day Ahead Market, the residual auction is a simple lining up of bids and offers
4. Tracking of trades: this is the same mechanics as ERCOT's current system of tracking bilateral Ancillary Service (AS) trades. All bilateral AS trades ultimately lead to a physical resource. The same is true for the LSE obligation trades.
5. Load forecast: ERCOT already calculates a percentile expectation in its SARA report. It simply needs to divide that into individual LSEs based on their coincident contribution to peak load.

15. If the Commission adopts an LSE Obligation, what assurances are necessary to ensure transparency and promote stability within retail and wholesale electric markets?

RESPONSE: Transparency and stability in the retail and wholesale electric markets can best be assured through a three-part strategy: ERCOT's maintenance of a bulletin board for bi-lateral offers and trades, a residual auction in advance of the compliance reporting containing a must-offer obligation for generators of any uncommitted reliability attributes, and an alternative compliance payment. These three elements of the LSE Obligation will ensure that each LSE will be able to meet its compliance obligation and provides a maximum cost that LSEs can build into forward contracts, and it will encourage pricing consistent with needs on a forward basis while discouraging the use of market power

16. Are there relevant "lessons learned" from the implementation of an LSE Obligation in the SPP, CAL-ISO, MISO, and Australian markets that could be applied in ERCOT?

RESPONSE: Good design for the LSE Obligation is essential. In California, there is no central clearing mechanism, and utilities are not required to offer unobligated accredited MW. Including

a residual auction backstop with a must-offer for generators would help avoid problems such as those seen in CAISO.

4. Are there alternatives to a load serving entity (LSE) Obligation that could be used to impose a firming requirement on all generation resources in ERCOT?

RESPONSE: Exelon is unaware of any viable alternatives.

5. Are there alternatives to an LSE Obligation that could address the concerns raised about the stakeholder proposals submitted to the Commission?

RESPONSE: Exelon is unaware of any viable alternatives. Providing payments to a subset of resources will not lead to the total installed capacity needed on the grid and could lead to retirements of assets that do not qualify for that product.

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CONCLUSION

For the foregoing reasons, Exelon respectfully requests that the Commission make changes to the current market design, consistent with the above. Exelon is willing to participate in the upcoming workshops should the commission desire.

Respectfully submitted,

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On behalf of Exelon Generation Company, LLC